

USSR

UDC 621.373.826:621.317.78

GUZHVA, V. G., ZINCHENKO, N. I., KOKODIY, N. G., KUZ'MICHEV, V. M.

"High-Speed Laser Radiation Pulse Energy Meter"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn. sb. (Radio Engineering. Republic Interdepartmental Schematic Scientific and Technical Collection), No 19, 1971, pp 140-144 (from RZh-Radiotekhnika, No 1, 1972, Abstract No 1D457)

Translation: This instrument is designed for measuring the pulse energy and also the mean radiation power of lasers operating in the free generation mode and in the Q-factor modulation mode. About 9 percent of the transmitted radiation is shunted to the pyroelectric sensor which converts the radiation pulse to a voltage pulse with a duration of several milliseconds and with an amplitude proportional to the radiation pulse energy. The voltage pulse amplitude is measured by a peak volt meter. The measurement time was 2 seconds, and the time between measurements was 15 seconds. The instrument is calibrated by a calorimetric meter. The total error was $(-2 \pm 8)\%$. There are 4 illustrations and a 4-entry bibliography.

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USSR

UDC: 63: 31: 632.954

ZINCHENKO, V. A., ZINCHENKO, A. P., Ramensk Agrochemical Experimental Station, Moscow Oblast

"Statistical Analysis of Dependence of the Effect on the Doses of Physiologically Active Substances"

Moscow, Agrokhimiya, Vol 6, 70, pp 105-111

Abstract: A variant of statistical analysis of the relation between the doses of phenazone in the soils and the decrease of the weight of the oat plants as bioindicators is suggested. The equation relating the logarithms of the doses with the probits of decrease of the weight of the plants is as follows: $y = 4,844 + 1,213x$, where: y is the probit of percentage decrease of the weight, $x = \lg$ of the doses, and 1,213 - a coefficient of regression. With this equation the values of some distant probits permit determination of the values of x and construction of the line of regression. The zone of its significance is calculated from the formula of the error:

$$E = t \sqrt{\frac{y^2 - (\frac{y}{n})^2}{n(n-2)}} (1 - R^2), \text{ where } t \text{ may be found from}$$

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ZINCHENKO, V. A., and ZINCHENKO, A. P., Agrokhimiya, Vol 6, 70, pp 105-111

the student's table. Determination of the amount of the physiological active substances in soil may be easily calculated from the equation if the probit of percentage weight decrease is known from the experiment.

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ZINCHENKO, V. G.

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69. USSR

ZINCHENKO, V. G. and KATAYEV, Yu. S.

UDC 002.6.002.5:651

"One Method of Retrieval for Discrete Carriers of Information"

Tr. NII Upravl. Mashin i Sistem (Works of the Scientific Research Institute of Control Machines and Systems), Vypusk 4, 1970, pp 45-48 (from R-Zh -- Informatika, No 4, Apr 71, Abstract No. 71.4.227 (71R--1128))

Translation: A composite type of device for retrieving discrete carriers of information is described. The search procedure is sequential, only in the given device, the entire carrier is not passed in front of the reading unit; instead, only the backs of carriers with an address code at the end are scanned by being turned over. The electromechanical part of the device has electronic control assemblies. A kinematic diagram of the device is presented. It is noted that the use of the given device makes it possible to decrease the time needed to retrieve frequently requested carriers and to reduce wear on the part of the carrier on which the information is recorded. It also makes it possible to use longer carriers, as the length of the carrier does not affect retrieval time in the given device.

USSR

UDC 539.3:669.245

LOZINSKIY, M. G. and ~~ZINCHENKO, V. M.~~

"Investigation of the Deformation Capacity of Nickel and Its Solid Solutions With Chrome and Titanium"

Moscow, Mashinovedeniye, No 3, 1972, pp 76-79

Abstract: A quantitative evaluation has been made of the influence of the separate and combined alloying of nickel by chrome and titanium on the basis of grain boundaries in specimens tested at 400 and 800°. At 400° intergrain deformation decreases in a nickel-titanium alloy; for example, at a total elongation of 5% it was 0.16%, whereas for nickel it was 0.49%, while for nichrome it was practically absent. At 800°, intergrain deformation in specimens of binary alloys is 1.5-2 times greater than in nickel, whereas for specimens of nichrome-titanium alloy it is 2 times less. The indicated changes in the intergrain component of total deformation are explained by an increase in the tangency of binary alloys of nickel with chrome and titanium for brittle destruction, and by a decrease of this property in an alloy which constitutes a solid solution of titanium and chrome in nickel. 2 figures. 8 references.

1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SYNTHESIS AND REACTIONS OF 11,12,CHLORO,5,NITRO
FLUORANTHENE,4,SULFONIC ACID -U-
AUTHOR-(02)-BURMISTROV, S.I., ZINCHENKO, Y.M.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(5), 1082-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--MOLECULAR STRUCTURE, CHEMICAL SYNTHESIS, HYDROGENATION,
SULFONIC ACID, CHLORINATED ORGANIC COMPOUND, AROMATIC NITRO COMPOUND,
AROMATIC CARBOXYLIC ACID, HYDROLYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1274 STEP NO--UR/0366/70/006/005/1082/1086
CIRC ACCESSION NO--AP0134948
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134948

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHLORINATION OF
5,NITROFLUORANTHENE,4,SULFONIC ACID (I) AT 30DEGREES GAVE ITS
11,12,DICHLORO DERIV. ABOVE 60DEGREES I WAS CHLORINATED TO
4,NITRO,5,11,12,TRICHLOROFLUORANTHENE (II). I WAS OXIDIZED WITH K SUB2
CR SUB2 O SUB7 IN H SUB2 SO SUB4 TO
2,NITRO,6,7,DICHLOROFLUORENONE,1,CARBOXYLIC ACID, WHICH WAS HYDROGENATED
TO THE 2,AMINO ANALOG. HYDROGENATION OF II GAVE THE 4,AMINO ANALOG
(III). THE SANDMEYER REACTION APPLIED TO III GAVE THE
4,5,11,12,TETRACHLORO ANALOG. ALSO, 5,11,12,TRICHLOROFLUORANTHENE WAS
PREPD. FROM III. HYDROLYSIS OF I WITH 65-70PERCENT H SUB2 SO SUB4 GAVE
11,12,DICHLORO,4,NITROFLUORANTHENE. I WAS ALSO REDUCED TO ITS 5,AMINO
ANALOG. FACILITY: DNEPROPETROVSK. KHIM.-TEKHNOL. INST. IM.
OZERZHINSKOGO, DNEPROPETROVSK, USSR.

UNCLASSIFIED

Acc. Nr:

AP0053446

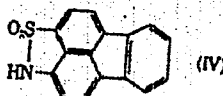
Abstracting Service:
CHEMICAL ABST.

Ref. Code:

5/10

4R0366

111152g Synthesis of 4-nitro and 4-aminofluoranthene-3-sulfonic acids and their derivatives. Burmistrov, S. I.; Zinchenko, V. M. (Dneprovsk. Khim.-Tekhnol. Inst., USSR). *Zh. Org. Khim.* 1970, 6(2), 375-9 (Russ). The nitration of Na fluoranthene-3-sulfonate (I) gave 1 4-nitro deriv. (II). Mg, Zn, K, PhNH₂, and urea salts of II were also prepd. The hydrolysis of II K salt gave 3-nitrofluoranthene. The redn. of II gave 4-amino deriv. (III) of II. The diazotization of III followed by the treatment with KOH soln. gave K 4-hydroxyfluoranthene-3-sulfonate. The treatment of K salt of III with POCl₃ gave



fluoranthene-3,4-sultam (IV). Na and K salts of IV were also prepd.

CPJR

REEL/FRAME
19830471

7

Superalloys

UDC 539.4

USSR

ZINCHENKO, V. M., Moscow

"Investigation of the Deformation Resistance of Nickel, Its Solid Solutions, and KhN77T2YuR Alloy at Different Temperatures by Measuring Hot Hardness"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 72, pp 60-63

Abstract: Results of Determining the hardness of nickel, in solid solutions with titanium and chromium, as well as alloy KhN77T2YuR between 20 and 1000°C, are presented. In the indicated temperature interval, the hardness of the alloys is higher than that of nickel. The temperature function of hardness for the alloys differs from that indicated for nickel. At 50-250°C the alloying elements increase the temperature where a sharp drop in the resistance to deformation occurs, whereupon the combined action of alloying elements is more effective than the action of each element individually. Two figures, 10 bibliographic references.

1/1

Acc. Nr: **AP0041918**

Ref. Code: UR 0245

PRIMARY SOURCE: Voprosy Psikhologii, 1970, Nr 1, pp 39-52

SCANNING OF SUCCESSIVELY FIXED TRACES
IN SHORT — TERM MEMORY

G. G. VUCHETICH and V. P. ZINCHENKO

Summary

The paper presents a scheme of successive information processing brought about by the visual system when constructing the image of an object or situation. The important components of the scheme are: the full storage in the short-term visual memory of the information obtained during 3—4 visual fixations and the subsequent scanning of several traces arranged in a card file order. The paper describes and discusses the expe-

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REEL/FRAME
19751807

AP0041918

riments which do not run counter to this scheme. The investigations carried out by the partial report method reveal the mechanism of selective retention of information obtained at each step of search. The investigations carried out by the missing component scan method (where series of stimuli with short intervals were presented) show the possibility of forming chains (card file) of traces. The development of experimental model, in which both indicated methods of studying the short — term visual memory would be combined, is necessary, in authors' opinion, for the refinement of the proposed scheme.

MT

2/2

19751808

USSR

UDC 547.754:543:422.25.4.6:542.9.44.1

KOST, A. N., YUDIN, L. G., and ZINCHENKO, Ya. Ya., Moscow State University
Imeni M. V. Lomonosov

"Indole Chemistry. XXXIV. Bromination of 5-Substituted Indoles"

Riga, Khimiya Geterotsiklicheskikh Soyedinenii, No 3, Mar 73, pp 332-336

Abstract: Bromination of 1,2-dimethyl-3-carbethoxy-5-hydroxyindole in acetic acid yields 1,2-dimethyl-3-carbethoxy-5-hydroxy-6-bromoindole. Bromination of the position C-4 occurs only when the C-6 position is already occupied. If the hydroxy group at C-5 is replaced by a methyl substituent, then the bromination yields a 6-substituted product; for example, 1,2,5-trimethyl-3-carbethoxyindole yields 1,2,5-trimethyl-3-carbethoxy-6-bromoindole. Dibromodioxane reagent also introduces bromine into the position C-6. 1,2-Dimethyl-3-carbethoxy-5-benzoyloxy-6-bromoindole can be obtained either by bromination of 1,2-dimethyl-3-carbethoxy-5-benzoyloxyindole or by benzylation of 1,2-dimethyl-3-carbethoxy-5-hydroxy-6-bromoindole. The same two reactions can be used to produce 1-phenyl-2-methyl-3-carbethoxy-5-acetoxy-6-bromoindole.

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USSR

UDC 621.396.6.002

ZINENKO, L. G.

"Degreasing Parts Coated With Galvanic Silver"

Elektron. tekhnika. Nauchno-tekhn. sb. Tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), 1970, vyp. 3 (35), pp 67-70 (from RZh-Radio-tekhnika, No 12, Dec 70, Abstract No 12V315)

Translation: An evaluation is given of the effectiveness of action of various materials for degreasing parts coated with galvanic silver. It is found that organic solvents leave a very thin film on the surface of the parts; alkali degreasing leaves the surface its cleanest. In choosing organic solvents, it is recommended that chlorine derivatives of the trichloroethylene and carbon tetrachloride type be used. Resumé.

Explosives and Explosions

UDC 662.215.5 + 539. 3

USSR

ANCISOV, A. P., BOSTANDZHIYAN, S. A., and ZINENKO, ZH. A., Institute of Chemical Physics, Academy of Sciences USSR, Chernogolovka Moskovskaya Oblast'

"Heating-up and Ignition of Solid Explosives Under Shear Destruction"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 6, Apr 73, pp 1361-1364

Abstract: In an attempt to determine conditions at which the formation of the foci of explosion initiation occur as a result of the spontaneous elastic discharge of the deformed parts, a theoretical analysis is carried out of the heating-up and ignition of solid explosives under shear destruction. The destruction process of solid explosives is governed by laws derived for plastic metals. The appearance of the heating-up foci resulting from spontaneous elastic discharge of solid explosives during their destruction is possible under conditions of $V \gg V_{cr} = 1.74$. As far as chemical reaction input is concerned, at small δ it has a negligible effect on the heating-up value. At higher δ the temperature at the friction plane increases explosively. Ignition occurs at δ values exceeding the critical value δ_{cr} . δ Represents the ratio of τ_m to τ_{ad} -- adiabatic period of

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USSR

AMOSOV, A. P., et al., Doklady Akademii Nauk SSSR, Vol 209, No 6, Apr 73,
pp 1361-1364

the induction of inflammation at maximal temperature T_m . Since on the average

α_{cr} was found to be $\cong 10$, τ_{ad} is less than or equal to $0.1 \tau_m$.

2/2

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USSR

UDC 548.4

TYAPUNINA, N. A., PASHCHENKO, T. N., ZINENKOVA, G. M., Moscow State University
imeni M. V. Lomonosov

"Grids of Dislocations Formed During Growth and Annealing in Base Plane of
Zinc Single Crystals"

Moscow, Kristallografiya, Vol 18, No 2, Mar-Apr 73, pp 418-420.

Abstract: Primary attention in this work is given to the study of the nature of the dislocations and determination both of Burger's vectors b and direction vectors d_l of segments of dislocation grids. Studies were performed using a GEM-100V electron microscope at 100 kv accelerator voltage. Analysis of the pictures produced showed that the dislocation grids consist mainly of mixed dislocations. Over 20 grids were studied and in all cases it was found that the orientation of segments of dislocations was near edge orientation. This fact might be related to the process of preparation of specimens, since dislocation structures of helical segments might easily break down in the thin foil due to transverse slipping, while nonconservative motion is required for projection of edge segments from the plane of the grid.

1/1

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Acc. Nr: **AP0049778** Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

4R0191

2

101896p Polyethylene compositions for spray-coating preparations. Sinegub-Lavrenko, A. A.; Pavlova, V. G.; Zinevich, A. M. (USSR). *Plast. Massy* 1970, (1), 60-2 (Russ). Protective polymeric coatings were prepd. by electrostatic spraying of high-d. polyethylene P-4020-E (I) [filled with SiO_2 , CaO , and other metal oxides and stabilized with 0.2% Neozone A (II) and diphenyl-*p*-phenylenediamine (III)] on Al foil. II and III were mixed with I for 15 sec in a centrifuge to give a homogeneous mixt. The filler was modified with Cationate-7 (a waterproofing agent prepd. from $\text{C}_{18}\text{H}_{35}\text{NH}_2$ and oleic and stearic acids), which increased the tensile strength and wear resistance, and reduced the elongation at break of I coatings. Optimum spraying conditions were detd. Photomicrographs of the modified I coatings are presented.

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REEL/FRAME
19801696

7

USSR

UDC 627.833:626.41(088.8)

ZINEVICH, D. I., TENDLER, V. M., ABRAMZON, A. Z.

"Device for Protection of the Housings of Hinged Gates"

USSR Author's Certificate No 255849, filed 23 Oct 68, published 17 Mar 70,
(from RZh-Elektrotehnika i Energetika, No 2, Feb 71, Abstract No 2 D159 P)

Translation: A device is proposed for protection of the housings of hinged gates of sluices and docks from ice impact. For increased operating reliability of the hinged gates at negative air temperatures, the device is made with a constantly taut screen which follows the water level. One end of the screen is attached to a spool mounted on a floating eye with a hole located in a guide well in the end of the housing of the gate hinges, and the other is attached to a floating eye capable of being moved along the guide on the hinged end of the gate hinge. In order to keep the screen tight, the device is equipped with a weight connected by a cable to a drum rigidly fastened to the spool. With the gates completely open, the entire screen is wound on the spool, and the weight is dropped to the lowest position. When the gates are closed, the screen is unwound off the spool, the weight rises to the upper position, and the floating eyes which follow the water level in the chamber or race keep the screen at the water level so that the loose pack ice from the chamber does not penetrate to the housings of the gate hinges. There are 4 illustrations.

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USSR

UDC: 624.824:624.131.6

ZINEVICH, N. I., Engineer, KUPERMAN, V. L., Candidate of Technical Sciences, KUZ'MIN, K. K., Engineer, and TOLKACHEV, L. A., Engineer

"Erection of an Earthfill Dam With an Injected Core and a Film Type Diaphragm Without Drainage of the Foundation Pit"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 5, May 73, pp 20-23

Abstract: The authors describe a dam built for the Atbashinskaya Hydroelectric Power Station on the Atbasha River. The dam was designed for a head of 75 m and is located in rough mountain terrain associated with complex seismic and geologic conditions. This is an earthfill type dam with an injected core and a film type diaphragm without drainage of the foundation pit. This method of construction made it possible to cut down on construction time by eight to ten months and save 300 thousand rubles. The use of a film type diaphragm and the method for fastening it to the steep stone walls made it possible to locate an earthfill dam in a narrow canyon. These conditions ensured a significant reduction in the dam volume and reduced the cost of construction (900 thousand rubles). The use of the film diaphragm as an antifiltration device made it possible to continue construction during the winter months at temperatures as low as -20°C . The construction of special galleries for injection operations made it possible to continue the dam fill operations without delays.

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ZINGER, N. M.

BASIC TRENDS IN THE TECHNICAL DEVELOPMENT OF HEAT ENGINEERING

ISS 61155.2

[Article by Candidate of Technical Sciences N. M. Zinger, 1971, Union Institute of Heat Engineering, Moscow, Engineering, No. 7, 1971, p. 5-9]

The introduction of a dispersed heating system is the most important phase of heating engineering. In accordance with the introduction of the high-efficiency concentrated heat supply, central heating and concentrated heat supply to cities, large villages and industrial facilities will develop at even more rapid rates. At the heat and power centers, dispersed heating units with a capacity of 100,000 to 1,000,000 kW will build over larger heating networks with pipe diameters of 1,000-1,400 mm and an operating radius up to 10-20 km. In the process of operating the heating systems, for assuring an uninterrupted heat supply, automation and telemechanization will have to be introduced more and more extensively. The series of articles published in this journal issue is devoted to urgent questions involved in the planning and operation of heat supply systems: to construction-insulation designs of heating networks, protection of heating systems from internal corrosion and increasing the quality of feed water, to systems of automation and the protection of peak boilers and pumping stations of heating systems.

In our country, central heating and concentrated heat supply have been given a very broad development. Total of the total heat consumption in the country in 1970 which can be estimated at 1,900 million Gcal (Gcalories (Btu)), from the

ZINGERMAN A. M.

JPRS 58092
30 Jan 73

- 1 -

[1 - USSR - C]

Analysis of the dynamics in a man-operator during sensorimotor tracking of an object disclosed two types of cardiac reactions -- intensive sympathetic type reactions and weak parasympathetic type reactions. These two categories of reactions turned out to be stable characteristics of the examined individuals and were well correlated with the tracking quality indices. Dispersion and factorial data analysis confirmed the observed differences. The article attempts an interpretation of the obtained data from the viewpoint of automatic control theory.

Data in the literature indicate that pulse frequency along with level of arterial pressure reflects neural-emotional tension, which is characteristic to a certain degree for various types of operator activity [1, 2, 10, 12, 13, 14]. The shifts are particularly large in critical emergency situations [6, 11]. We discovered in our investigations that the heart-beat is conditioned by an evaluation of the probability of an emergency situation [4, 5]. The possibility of variously directed cardiac actions in operators in the said situations were also noticed by other investigators [2, 3]. The investigations by P. K. Anshin [1] over a period of many years and those of the staff directed by him have indicated the decisive role of afferentation on the results of activity in the organization of the regulation processes of all functional systems. P. D. Dianov [15] stressed that the total cardiac beat frequency deviation from the background is proportional to the difference between the information essential for achieving a goal and that information which the subject actually has at his disposal [15].

Article by A. M. Zingerman, Section on Ecological Physiology (Head N. N. Vasil'evskiy) of the USSR Academy of Medical Sciences Institute of Experimental Medicine, Leningrad, Leningrad, Pizholskikh, Zhurnal SVMO, Ekstrem, No 10, 1972, submitted 28 October 1971, pp 1527-1534.

CHARACTERISTICS OF CARDIAC ACTIVITY IN
A MAN-OPERATOR IN A CONTROL PROCESS

UDC 612.766.1+612.17

JPRS 58092
30 January 1973

USSR

UDC 621.874:624.023.9337:620.178.3.-974

KOBRIN, M. M., Candidate of Technical Sciences, FEDOROV, YU, K., Engineer,
ZINGERMAN, B. Z., Engineer, ZOTEYEV, V. S., Candidate of Technical Sciences, and
 TYLKIN, M. A., Doctor of Technical Sciences

"Fatigue Strength of the Welded Beam Support Subassembly of Overhead Travelling
 Cranes at Minus Temperatures"

Moscow, Vestnik Mashinostroyeniya, No 4, Apr 73, pp 16-19

Abstract: The authors determine the effect of low temperatures on the fatigue strength of the support subassemblies of welded metal structures with sharply varying cross sections. The jib of a 20-ton series produced travelling crane is studied. The beam is made from St3 grade steel and welded with the E42A electrodes. The bent sheet of the bottom band is welded to the vertical wall by a bilateral angular seam (10 mm fillet). Tests were conducted at +20 and -40°C on a hydraulic-pulsed testing machine including refrigeration equipment. The fatigue limits for the full scale beams of a travelling crane are determined by the interpolation method and are $\sigma=13.4 \text{ kg/mm}^2$ for +20°C and $\sigma=11.3 \text{ kg/mm}^2$ for -40°C.

Acc. Nr: AP0044700

Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48,
Nr 1, pp 49-55

THE CLINICAL PICTURE AND DIAGNOSIS OF ANGINA
ABDOMINALIS

A. V. Pokrovskiy, B. I. Bragin, I. I. Rushanov, L. S. Zingerman
Summary

Among 281 patients with obstructive lesions of the abdominal aorta and its branches the authors revealed 47 persons with occlusions of the visceral vessels; of this number in 20 cases they occurred as the result of nonspecific aortoarteritis and in 27 — of atherosclerosis; only in 24 patients there were clinical manifestations of the disease.

As a rule, the clinical picture of angina abdominalis occurred in affection of two or three branches; only in isolated lesion of the splanchnic artery there were definite clinical manifestations. Routine clinical examination enables in most cases to suspect the true nature of the pathology and the final diagnosis is established during X-ray investigation (preferably serial) in the dorsoventral and lateral projections.

REEL/FRAME
19771435

0244

USSR

UDC 621.317.4:621.318.12

ARTEMOVA, M. A., BAGALEY, O. Yu., GROBOVITSKIY, M. I., ZINGERMAN, V. I.

"Installation for Determination of Static Magnetic Characteristics of Specimens of Magnetically Hard Materials"

Izmeritel'naya Tekhnika, No 11, 1971, pp 65-67.

ABSTRACT: A description is presented of a new installation, designed for certification testing of specimens of magnetically hard materials. It allows determination of demagnetization curves of specimens consisting of rectangular parallelepipeds with cross sections of 0.5 to 9 cm², from 15 to 100 mm in length. The coercive force of the specimens tested should be not over 200 ka/m (for 15 mm specimens) or 80 ka/m (for 100 mm specimens). The design and construction of the new installation eliminate the preliminary calibration operations, the system itself being suitable as a standard source for certification of standard specimens. The installation uses a measurement method allowing the advantages of pulse magnetization and induction measurement of magnetic induction to be combined. A photograph is presented of the device, plus a description of its primary characteristics.

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Acc. Nr:

00048357

Abstracting Service:

INTERNAT. AEROSPACE ABST **5-70 UR0141**

Ref. Code:

A70-25165 # Method of receiving pulsar radio emission
(K metodike priema radioizlucheniia pul'sarov). V. A. Zinichev and
V. O. Rapoport (Gor'kovskii Gosudarstvennyi Universitet, Gorki,
USSR). *Radiofizika*, vol. 13, no. 2, 1970, p. 299, 300, 7 refs. In
Russian.

IZVUZ

Description of a method for receiving pulsar radio emission which features a five to tenfold improvement in the SNR for most known pulsar sources. Previous studies showed that the reception of pulsar emission on two close fixed frequencies provides two pulse sequences which are shifted in time with respect to each other. The proposed method is based on periodic (with the pulse repetition period of the pulsar sequence) variation of the average reception frequency with time in such a way as to ensure the reception of each individual pulsar pulse throughout the entire pulse repetition period; in other words, continuous reception is achieved.

T.M.

REEL/FRAME
19800064

12

1/3 018 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--CONNECTION BETWEEN ELECTRIC EXCITABILITY OF THE HIPPOCAMPUS AND THE
DEVELOPMENT OF INHIBITION IN THE PROCESS OF ACOUSTIC EPILEPSY -U-
AUTHOR--(03)-FLESS, D.A., ZORINA, Z.A., ZININA, S.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL VYSSHEY NERVNOY DEYATEL'NOSTI, 1970, VOL 20, NR 1, PP
139-143
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HIPPOCAMPUS, EPILEPSY, INHIBITION, ACOUSTIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1982/0724

STEP NO--UR/0247/70/020/001/0139/0143

CIRC ACCESSION NO--AP0052182

UNCLASSIFIED

2/3 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052182

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRICAL EXCITABILITY OF THE HIPPOCAMPUS, THE CAUDATE NUCLEUS, THE MEDIAL GENICULATE BODY AND THE DORSAL COCHLEAR NUCLEUS WAS COMPARED IN TWO GROUPS OF RATS OF THE KM LINE, REACTING WITH SEIZURES TO ACOUSTIC STIMULATION, BUT DIFFERING IN THE DEGREE OF ACTIVE INHIBITION (PRESENCE OR ABSENCE OF AN INHIBITORY PHASE IN THE MOTOR EXCITATION PRECEDING THE SEIZURES), AND IN RATS OF THE WISTAR LINE INSENSITIVE TO SOUND. THE THRESHOLDS WERE DETERMINED OF THE SEIZURES TYPICAL OF EACH OF THE STRUCTURES (FACIAL MYOCLONIC SEIZURES, ADVERSION OF THE HEAD, GENERAL DRASTIC MOTOR EXCITATION). DIFFERENCES WERE FOUND ONLY IN IN TWO GROUPS OF RATS OF THE KM LINE, REACTING WITH SEIZURES TO ACOUSTIC STIMULATION, BUT DIFFERING IN THE DEGREE OF ACTIVE INHIBITION (PRESENCE OR ABSENCE OF AN INHIBITORY PHASE IN THE MOTOR EXCITATION PRECEDING THE SEIZURES), AND IN RATS OF THE WISTAR LINE INSENSITIVE TO SOUND. THE THRESHOLDS WERE DETERMINED OF THE SEIZURES TYPICAL OF EACH OF THE STRUCTURES (FACIAL MYOCLONIC SEIZURES, ADVERSION OF THE HEAD, GENERAL DRASTIC MOTOR EXCITATION). DIFFERENCES WERE FOUND ONLY IN THE HIPPOCAMPUS, THE THRESHOLD OF THE TYPICAL MYOCLONIC SEIZURES WAS ALMOST 2.5 TIME LOWER IN THE SENSITIVE RATS WITHOUT AN INHIBITORY PHASE THAN IN THOSE WITH AN INHIBITORY PHASE AND THAN IN NON SENSITIVE ONES. THE LATTER TWO GROUPS, ALONG WITH A SIMILARITY OF THE THRESHOLDS OF ELECTRICAL SEIZURES, CONSIDERABLY DIFFERED IN THE RATE OF THEIR GENERALIZATION.

UNCLASSIFIED

3/3 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052182

ABSTRACT/EXTRACT--IT HAS BEEN ASSUMED THAT ENHANCED SEIZURE READINESS OF THE HIPPOCAMPUS DISTURBS ITS INHIBITING FUNCTION AND CAUSES A WEAKNESS OF INHIBITION; ONE OF THE CONDITIONS OF ENHANCED SEIZURE READINESS OF THE RAT BRAIN TO THE ACOUSTIC STIMULATION.

UNCLASSIFIED

89

USSR

UDC: 621.396.69:621.316.8

ZINKEVICH, N. M.

"Overload Capacity of Resistors"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 1 (18), pp 73-87 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V338)

Translation: The author gives the overload characteristics of principal types of resistors and the possible level of power overloads lasting more than 1 msec. A comparative analysis is given of the overload capacity of MLE, VS, TVO and PEV resistors. The regions of limitation of overload levels are determined. The experimental data are compared with computations. Ye. M.

USSR

UDC 539.4.014

BELYAYEV, V. I., and ZINKEVICH, V. I.

"Mechanical Properties of Stainless Steel and of Titanium Alloy Revealed During Rapid Tension Tests"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 2, Mar/Apr 73, pp 153-156

Abstract: Results are presented (obtained with optical and electron microscopes) on the effect of structural and phase transformations on mechanical properties of stainless steel 1Kh18N9T (0.12% C, 1.52% Mn, 0.40% Si, 18% Cr, 9% Ni, 0.40% Ti) and of titanium alloy OT4 (0.064% C, 0.03% Si, 0.16% Fe, 2.97% Al, 1.23% Mn) subjected to impact loading at room temperature. Cylindrical samples were subjected to tension at rates of 10^{-4} to 350 m/sec. Mechanical properties and structural changes of metals were studied after rupture of samples with various tensile force. Yield, strength, and resistance to rupture of stainless steel increased when static loading was substituted by dynamic loading. However, when the deformation rate exceeded 4.2 m/sec some of the strength characteristics decreased. The number of slip lines in grains decreased when the tension rate was 5.2 m/sec. The rupture surface of samples deformed at 4.2 m/sec was directed at 45° toward the sample axis, and it was in a shape of a cup when the sample was ruptured at 5.2 m/sec. Tensile

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USSR

BELYAYEV, V. I. and ZINKEVICH, V. I., Fizika i Khimiya Obrabotki Materialov, No 2, Mar/Apr 73, pp 153-156

stresses were responsible in the first case of rupture which proceeded along the grain boundaries in the second case. Deformation of the titanium alloy was much more complex compared with stainless steel. Plastic properties of this alloy reached a maximum at a 50-100 m/sec tension rate and it was due to disintegration of the α' phase and formation of α - and β phases. Deformation with a rate exceeding 100 m/sec decreased the alloy plasticity, as well as the disintegration of the metastable α' -phase. It is concluded that disintegration of the metastable phases is responsible for deformation of metal subjected to high speed tension tests. The mechanism of microstructural changes for each individual material is different.

2/2

USSR

UDC 539.4

BELYAYEV, V. I., ZINKEVICH, V. I., KOVALEVSKIY, V. N., SKOKOV, P. I.

"Behavior of Certain Metal Materials Under Dynamic Tension"

V sb. Vysokoskorostn. deformatsiya (High-Speed Deformation -- Collection of Works), Moscow, "Nauka", 1971, pp 54-56 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1460)

Translation: Results of tests for strain of cylindrical samples of diameter 6 mm made of AD1 and D16 aluminum alloys, 1Kh18N9T stainless steel, OT4 titanium alloy, and 40Kh, 40KhNMA and 20KhNZA alloyed structural steels are presented. The strain tests were conducted in the velocity range from 10^{-4} to 650 m/sec. The velocity range in which the highest plasticity properties and also the velocity range with a zero value of the plasticity characteristics were determined. Authors abstract.

1/1

62

Computers: Digital

USSR

UDC: 681.327

ZINKEVICH, V. P., KASPIROVICH, V. I., SOLOV'YEV, A. L.

"Multivalued Matrix Memories Based on Toroidal Cores"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology. Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 366-368 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B383 by B. K.)

Translation: The authors consider the feasibility of constructing multivalued matrix memories based on toroidal ferrite cores with data recording by the method of coincidence of half-currents. An analysis of the selection system shows that a type 2D sampling system must be used in the given memory unit. The accumulator of the memory is based on ferrite cores 1, 5VT measuring 2.5 x 1.8 x 1 mm.

In data recording, one half-current remains constant in amplitude and the second varies in accordance with the data being recorded. It is pointed out that recording ten-level information requires that cores be sorted with a precision of $\pm 1\%$. Pulse or sine-wave current is used for

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USSR

ZINKEVICH, V. P. et al., Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl., 1972, pp 366-368

nondestructive data readout. The principles of construction of the proposed memory were verified on a model with a capacity reaching up to 600 cores. Two illustrations.

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USSR

UDC 669.134.244.66

TRAVIN, O. V., ZIN'KO, B. F., SHUMOV, M. M., ISAYEV, V. A.,
ZHUKAYEV, G. M., and SOBKIN, S. I.

"Kinetic Specifics of the Process of Deoxidation During Production of Low-Carbon Rimming Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 93-100

Translation: The mass transfer conditions between slag and metal in the process of deoxidation of low-carbon rimming steel in the ladle are studied. It is established that during the process of deoxidation the loss of manganese is determined by both the thermodynamic and the kinetic conditions. The influence of the pouring time, slag viscosity, moment of addition of deoxidizers, and other kinetic parameters on manganese loss is determined. An equation is presented, allowing the manganese loss to be determined in advance on the basis of known parameters of the converter process, notch condition and other factors. 4 figures.

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USSR

UDC 669.184.244.66

ZIN'KO, B. F., TRAVIN, O. V., SHUMOV, M. M., ISAYEV, V. A., and
ZHUKAYEV, G. M.

"State of the Oxidation of Low-Carbon Converter Steel"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 100-104

Translation: In connection with the requirements for performance of more precise deoxidation, the thermodynamic and kinetic factors determining the level of oxidation of metal in a converter are analyzed. On the basis of diffusion concepts, an equation is derived allowing the actual content of oxygen in the bath to be determined on the basis of known parameters: content of carbon in the metal, concentration of ferrous oxide in the slag, and metal temperature. 3 figures; 3 biblio. refs.

UDC:669.184.244.66

USSR

TURKENICH, D. I., ZIN'KO, B. F., and ROMANOV, YU. A.

"Influence of Blow Parameters on Reaction Rate of Decarburization in a Converter"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 108-116

Translation: The influence of oxygen consumption and position of the tuyere on the rate of oxidation of carbon and degree of assimilation of oxygen by the decarburization reaction in the converter are studied. The established experimental dependences cannot be explained using the criteria based on the gas dynamic similarity of the velocity fields.

An attempt is made to explain these phenomena using the peculiarities of mass transfer of oxygen in the converter bath. 7 figures; 12 biblio. refs.

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UDC 666.764.13:621.9.048.6

USSR

BORISOVA, A. YU., ZIN'KO, E. I., and FEDINA, I. V., State
Scientific Research Institute of Electroceramics

"Effect of a Vibratory Mill on the Sintering and Properties of
Magnesium Oxide"

Moscow, Ogneupory, No 3, Mar 71, pp 57-60

Abstract : Each year the requirements for parts made of pure oxides for use at high temperatures increase. The manufacture of parts made of magnesium oxide presents isgnificant difficulties due to its tendency to hydration and the high sintering temperature required (1800-2000°C). The authors of this article produced a highly refractory material from magnesium oxide and developed the technology of producing vacuum-tight parts of complex configuration from this material by means of pressure casting. They also studied the effect of vibratory mills on sintering and the properties of chemically pure magnesium oxide. It was found that processing in a vibratory mill lowers the full sintering temperature of magnesium oxide from 1950 to 1850°C, and

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USSR

· BORISOVA, A. YU., et al., Ogneupory, No 3, Mar 71, pp 57-60

increases density and strength. Vibratory processing of magnesium oxide makes it possible to produce a uniform thermo-plastic dross for hot pressure casting and to significantly decrease the content of binder in it. Magnesium oxide vibrated for 15 minutes is distinguished by high specific volume, electrical strength and vacuum density, and by a small tangential angle of dielectric loss.

2/2

61 -

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--TESTING SEMERON ON CABBAGE PLANTINGS -U-
AUTHOR-(03)-MEREZHINSKIY, YU.G., PONOMAREV, G.S., ZINKOVICH, A.M.
COUNTRY OF INFO--USSR
SOURCE--KHIM. SEL. KHOZ. 1970, 8(1), 50-2
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, AGRICULTURE
TOPIC TAGS--HERBICIDE, AGRICULTURE CROP, SOIL TYPE/(U)SEMERON HERBICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1990/0723 STEP NO--UR/0394/70/008/001/0050/0052
CIRC ACCESSION NO--AP0108929
UNCLASSIFIED

2/2: 011 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0108929
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SERMERON AT 1.5-2.0 KG-HA IS
EFFECTIVE AGAINST WEEDS AND SAFE FOR CABBAGE PLANTINGS WHEN APPLIED AT
THE 2-4 LEAF STATE OR 2-3 WEEKS AFTER PLANTING. SEMERON IS EFFECTIVE
FOR 2-2.5 MONTHS IN MINERAL SOIL OR 1 MONTH IN PEAT SOIL.

UNCLASSIFIED

USSR

UDC 632.954:635.34

MEREZHUNSKIY, YU. G., PONOMAREV, G. S., and ZIN'KOVICH, A. M., Institute of Plant Physiology, Academy of Sciences Ukrainian SSR

"Testing of Semeron on Cabbage Plants"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 1, Jan 70, pp 50-52

Abstract: Tests conducted by the authors in 1967 and 1968 show that the use of semeron (Desmetryne) makes it possible to grow cabbage by the direct seeding method and to dispense with manual labor in caring for the vegetable. Field experiments with white cabbage were conducted at the Kiev Vegetable Varietal Plot and at the "Buchanskiy" and "Tarasovskiy" sovkhoses in Kiyevskaya Oblast. Results indicate that direct-seeded cabbage should be treated with semeron in the two- to four-leaf phase, the period when it is completely unharmed by the herbicide and weeds are most susceptible to it. Transplanted cabbage should be treated with the herbicide 2-3 weeks after transplanting. Doses should not exceed 1.5-2.0 kg/ha. Semeron retains its toxicity 2-2.5 months in mineral soil, up to one month in peaty soil.

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USSR

UDC 661.716.1 + 547.38 + 547.514

FUZHENKOVA, A. V., ZINCOVSKIY, A. F. and ARBUZOV, B. A. (Member of the USSR Academy of Sciences); Scientific-Research Chemical Institute imeni A. M. Butlerov, at the Kazan' State University imeni V. I. Ulyanov-Lenin

"Interaction of Dimethylphosphorous Acid with Tetracyclone"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 3, 71, pp 632-635

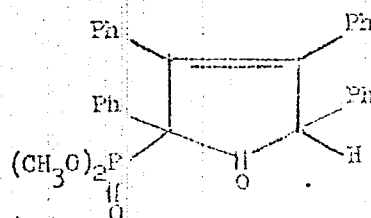
Abstract: The interaction between dimethylphosphorous acid and tetracyclone was studied under conditions of careful temperature control. As verified by infrared and chemical analysis, two of the end-products were the dimethyl esters of 2,3,4,5-tetraphenylcyclopentene-2-one-phosphonic-4 and-2 acids. With use of the catalysts triethylamine or sodium methoxide, at room temperature, the dimethyl ester of 1-oxo-2,3,4,5-tetraphenylcyclopenta-2,4-dienyl-1-phosphonic acid was formed, following which, in the course of 2-3 days, 0,0-dimethyl-2,3,4,5-tetraphenylcyclopenta-diphenylphosphate appeared, from which 2,3-dihydrotetracyclone was finally extracted.

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USSR

FUZIDENKOVA, A. V., et al., Doklady Akademii Nauk SSSR, Vol 201, No 3, 71, pp 632-635

The presence of a compound of structure



formed with the first two compounds mentioned was suspected, but this could not be verified even chromatographically.

Physico-chemical data for all verified products of the reaction are given.

USSR

UDC 661.718.1+547.38+547.514

FUZHENKOVA, A. V., ZINKOVSKIY, A. F., SAVCHENKO, L. YA., and ARBUZOV, B. A.,
Chemical Scientific-Research Institute imeni A. M. Butlerov affiliated with the
Kazan State University imeni V. I. Ul'yanov-Lenin

"Reaction of Fencyclone With Trialkyl Phosphite in the Presence of Acetic
Anhydride"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 754-756

Abstract: The title reaction may go via two pathways ($R = CH_3$ and C_2H_5):

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Organophosphorous Compounds

USSR

UDC 661.718.1 + 547.38 + 547.514

ARBUZOV, B. A., FUZHENKOVA, A. V., ZINKOVSKIY, A. F., and KOLOSKOVA, T. N.,
Scientific Chemical Research Institute imeni A. M. Butlerov at the Kazan'
State University

"Reaction of Trialkyl Phosphites With Indanocyclone"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2129-2133

Abstract: The reaction of trialkyl phosphites with indanocyclone goes along the Arbuzov rearrangement route, forming 1:1 bipolar type addition compounds at the first stage. If the reaction is carried out in presence of acetic acid or acetic anhydride, a series of encls is formed. An intermediate product is a bipolar ion whose presence was shown by thermographic and spectral data. An analogous addition product forms in a reaction of indanocyclone with tris(dimethylamino)-phosphine.

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USSR

UDC 661.718.1+547.38+547.514

ARBUZOV, B. A., Member Academy of Sciences USSR; FUZHENKOVA, A. V., ZIN-KOVSKIY, A. F., and SAVCHENKO, L. Ya., Scientific Research Chemical Institute imeni A. M. Butlerov at Kazan' State University imeni V. I. Ul'yanov-Lenin, Kazan'

"The Interactions of Trimethyl Phosphite and Dimethylphosphorous Acid With Phencyclone"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 2, 1971, pp 339-341

Abstract: A thermographic study of the addition of $(\text{MeO})_3\text{P}$ to phencyclone showed that this reaction proceeded at a higher temperature (beginning of the exo-effect at $58-62^\circ$, maximum at $85-90^\circ$) than the addition of $(\text{MeO})_3\text{P}$ to tetracyclone. The reaction also took place with an Arbuzov rearrangement, but not by a nucleophilic attack on the oxygen of the $\text{C}=\text{O}$ group, as in the case of tetracyclone, but by a nucleophilic attack on the carbon atom of $\text{C}=\text{O}$ with a subsequent rearrangement into a bipolar ion I, which then rearranged into a bipolar ion II with final isomerization into the end-product dimethyl ester of 2-methoxy-1,3-diphenyl-4,5(0,0'-biphenylene)-2,4-cyclopentadienylphosphonic acid (III), or by a direct attack on the 5-C atom adjacent to $\text{C}=\text{O}$ with the formation of II. A proof of 1/2

USSR

ARBUZOV, B. A., et al., Doklady Akademii Nauk SSSR, Vol 199, No 2, 1971,
pp 339-341

the formation of II was the conversion of II into 1,3-diphenyl-4,5-(0,0'-biphenylene)-4-cyclopentenone-phosphonic acid (IV) by the action of proton-donor reagents, i.e., acetic acid and MeOH. IV could also be obtained by the hydrolysis of III with 1:1 HCl. The addition of dimethylphosphorous to phencyclone resulted in the formation of IV.

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USSR

UDC 547.514.47+547.462.3

FUZHENKOVA, A. V., ~~ZINKOVSKIY, A. E.~~ and ARBUZOV, B. A., Scientific Research Institute of Chemistry imeni A. M. Butlerov affiliated with Kazan' State University imeni V. I. Ul'yanov-Lenin

"Thermographic Study of the Reaction Between Trialkyl Phosphites and Tetracyclone"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 491-495

Abstract: The reaction of trialkyl phosphites with tetracyclone was studied by using thermography. Thermographic interactions of trimethyl, triethyl and tripropyl phosphites with tetracyclone showed only an exo-effect on the thermograms regardless of the heating rate up to 130°C. The reaction goes to completion at room temperature within 1-2 days. The interaction of trimethyl phosphite with tetracyclone was studied in detail. The final products isolated from the reaction mixture were 0,0'-dimethyl 5-methyl-2,3,4,5-tetraphenylcyclopenta-1,3-dienyl phosphate and crystalline 0,0'-dimethyl-3-methyl-2,3,4,5-tetraphenylcyclopenta-1,4-dienylphosphate. Reaction of trimethyl phosphite with tetracyclone in the presence of acetic anhydride yielded 0,0'-dimethyl-2,3,4,5-tetraphenylcyclopenta-1,4-dienyl phosphate instead of the expected acetyl derivative, and reaction of diethyl acetyl phosphite

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USSR

FUZHENKOVA, A. V., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 491-495

with tetracyclone produced 0,0'-diethyl 2,3,4,5-tetraphenylcyclopenta-1,4-dienylphosphate instead of 0,0'-diethyl s-3,4,5-tetraphenyl-3-acetylcyclopenta-1,4-dienyl phosphate and 0,0'-diethyl 2,3,4,5-tetraphenyl-5-acetylcyclopenta-1,3-dienyl phosphate. Attempts to study the reaction of tetracyclone with ethyl diacetyl phosphite were unsuccessful. Thermography of mixtures of tetracyclone with trimethyl, triethyl and diethyl acetyl phosphites reveals another exo-effect at higher temperatures as a result of thermal conversion of phosphorus-containing products synthesized by passage through the first exo-effect. A Kurnakov PK-52 pyrometer with chromel-alumel thermocouple in sealed Stepanov vessels was used for the thermographic analysis. Calcined magnesium oxide was the standard. The exo-effect accompanying the reaction of trialkyl phosphites with tetracyclone is attributed to a two-step reaction involving an Arbuzov rearrangement and nucleophilic attack of the phosphorus atom either on the oxygen atom of the carbonyl group to form a bipolar form of the phosphate type, or on the carbon with phosphonate-phosphate rearrangement of the resultant bipolar ion.

2/2

Welding

USSR

UDC 621.791.053.002.612:658.386

BOTENOV, S. N., KAZENNOV, YU. I., AGAPOVA, N. P., ~~PALICHENKO, N. Y.~~ (Candidates of Technical Sciences), PROKHOROV, V. I., REVIZNIKOV, L. I., BOBYLEV, A. P., KRASINA, T. A., KRYLOV, YE. A., BALASHOV, V. D., ZINKOVSKIY, V. I., SYCHEV, R. S. (Engineers)

"Effect of Irradiation on the Properties of Welds of High-Alloy Steels and Alloys"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 4-6

Abstract: The effect of neutron irradiation on the short-term mechanical properties of basic metals and welds from 00Kh16Ni15M3B, 0Kh15Ni15M3B, and 0Kh20Ni40B austenitic steels and Kh132BF ferrite-martensite steel was investigated. The mechanical properties were determined on samples cut in the longitudinal direction from argon-arc welds using an infusible electrode. The samples were irradiated in the active zone of a reactor at about 100°C. The theoretical neutron flux density was 10^{15} neutron/cm². sec. Some samples received a dose of 2.8×10^{21} neutron/cm², while others received a dose of 4.3×10^{21} neutron/cm². The mechanical properties were determined on UMD-5 tensile testing machines at air temperatures of 20, 350, and 650°C.

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USSR

BOZINOV, S. N. et al, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 4-5

Tests conducted at 20°C showed that strength properties of all samples increased after irradiation; plasticity decreased. The tensile and yield strengths of weld metals with an austenitic structure increased to a lesser degree than those of the base metals. The mechanical properties of all samples at 350° did not differ from those of the base metals. A decrease in tensile and yield strength with a simultaneous decrease in plasticity was observed in samples with an austenitic structure in tests conducted at 650°C. These decreases were especially noticeable in irradiated samples made from 40% Ni steel. The possible cause of the sharp decline in the intergrain strength and plasticity observed at 650°C in the irradiated metal with high nickel content is suggested. Orig. art. has: 2 figures, 4 tables, and 5 references.

2/2

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXCITED NUCLEAR STATES DURING CAPTURE OF NEGATIVE MUONS BY CARBON
AND OXYGEN -U-
AUTHOR--(05)-BUDYASHOV, YU.G., ZINOV, V.G., KONIN, A.D., MEDVED, S.V.,
MUKHIN, A.I.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 4, PP 1211-1218
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--NUCLEAR ENERGY LEVEL, EXCITED NUCLEUS, MESON INTERACTION,
MUON, CARBON ISOTOPE, OXYGEN ISOTOPE, NUCLEAR SPIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/1892 STEP NO--UR/0056/70/058/004/1211/1218
CIRC ACCESSION NO--AP0108222
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0108222

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBABILITIES FOR FORMATION OF EXCITED LEVELS OF THE DAUGHTER NUCLEI PRODUCED BY CAPTURE OF NEGATIVE MUONS BY CARBON OR OXYGEN NUCLEI ARE STUDIED. THE TOTAL TRANSITION RATE TO ALL EXCITED BOUND STATES OF THE B PRIME12 SEXTILE NUCLEUS IS DETERMINED FOR THE C PRIME12 PLUS MUNEAGATIVE YIELDS B PRIME12 SEXTILE PLUS V REACTION; IT IS EQUAL TO 10.76 ± 0.14 TIMES 10^3 SEC NEGATIVE1. FOR THE O PRIME16 PLUS MUNEAGATIVE YIELDS MINUS N PRIME15 SEXTILE PLUS N PLUS V REACTION THE TOTAL TRANSITION RATE TO N PRIME15 SEXTILE EXCITED BOUND STATES WITH POSITIVE PARITY IS FOUND TO BE (14 ± 5) TIMES 10^3 SEC NEGATIVE1 AND THE TRANSITION RATE TO THE N PRIME15 SEXTILE SPIN THREE HALVES LEVEL IS (20 ± 5) TIMES 10^3 SEC NEGATIVE1. PART OF THE RESULTS STRONGLY DIFFER FROM THE THEORETICAL PREDICTIONS. FACILITY: OB"YEDINENNYI INSTITUT YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

Acc. Nr: AP0038033

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 104-107

A COORDINATE PROPORTIONAL COUNTER

Birvuokov, V. A.; Zinov, V. G.; Konin, A. D.

Results are presented of investigation of a 30×30 cm² multi-wire proportional counter suitable for measuring the coordinates of the site of flight of a charged particle.

REEL/FAME
19731075

19

68

USSR

UDC 621.771.073.001.5

KOSARIMOV, Ye. N., POLUKHIN, V. P., ZINOV'YEV, A. V., and GOLUBCHIKOV, V. A.

"Calculating the Camber of the Backup Roll Taking Into Account the Unevenness of the Curve of Inter-Roll Pressure"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No. 64, 1970, pp 122-124

Translation: A method is proposed for calculating the camber of the backup roll of a four-high mill, taking into account the uneven distribution of inter-roll pressure over the length of the roll barrels. It is shown that, in the actual range of unevenness of inter-roll pressure, bending deflection may vary by 20 percent at the same pressure on the housing screws.

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USSR

UDC 621.771.073.001.5

KOSARIMOV, Ye. N., POLUKHIN, P. I., and ZINOV'YEV, A. V.

"A Calculation of the Distribution of Inter-Roll Pressure on Four-High Sheet Rolling Mills with Anti-Bend Feature in Working Rolls"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya" Publishing House, No 64, 1970, pp 63-68

Translation: A method is proposed for calculating the inter-roll pressure when rolling on a four-high mill with unshaped working and backup rolls using the force of a positive bend between the roll necks. A comparison is made between calculated and experimental data which demonstrates that their convergence is satisfactory. Three illustrations.

1/1

2

UDC 619.616.988.43-022.39:636.29

USSR

KINDYAKOV, V. I., NAGUMANOV, F. M., BALGANBAYEV, Ye. Kh., ZINOV'YEV, B. S.,
PANKRATOV, L. D., and CHUFARIN, A. M., Kazakh Scientific Research Veterinary
Institute

"The Epizootiological Role of Wild Even-Toed Ungulates in Foot-and-Mouth
Disease"

Moscow, Veterinariya, No 9, Sep 70, pp 52-53

Abstract: Experiments conducted with roe deer, saiga antelopes, and Caspian
deer (marals) showed that these animals are highly susceptible to infection
with foot-and-mouth disease. An outbreak of foot-and-mouth disease caused by
the A₂₂ virus variant occurred in 1967 among cattle that were isolated from
contact with other cattle. The virus was introduced by a hunter who had brought
the carcass of an infected saiga antelope into the locality. Mass infections
of saiga antelope with foot-and-mouth disease occur. The animals showed
typical symptoms of the disease and the A₂₂ virus was isolated from them.
Under the conditions prevalent in Kazakhstan, saiga antelope form one of the
principal sources of transmission of foot-and-mouth disease to farm animals;
the antelope become infected with this disease from cattle and transmit it to

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USSR

KINDYAKOV, V. I., et al., Veterinariya, No 9, Sep 70, pp 52-5.

other cattle. Measures taken by the veterinary service to prevent transmission of foot-and-mouth disease by saiga antelopes involve constant observation of the antelope herds to check for the presence of infection, tracing of the routes of migration of these herds, and prevention of infection of the antelope themselves. Similar measures should be taken with respect to other wild even-toed ungulates in Kazakhstan.

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USSR

UDC: 8.74

ZINOV'YEV, E. V., IVAYLOVSKIY, Yu. Ye.

"Automatic Compilation and Arrangement of a Word Form Dictionary in Alphabetic Order"

Avtomatika i vychisl. tekhn., 1972, No 6, pp 44-49 (from RZh-Kibernetika, No 5, May 73, abstract No 5V767 by the authors)

Translation: A method is proposed for automatic compilation and alphabetic ordering of a dictionary of word forms; the procedure is based on using the properties of various methods: the method of separators, the method of contracting codes, the value method. A description is given of the structure of representation of the dictionary in the computer memory, and the dynamics of compiling the word form dictionary. In the method proposed by the authors, two address parts are used in compilation and alphabetic arrangement of the dictionary. The paper gives the algorithm for automatic compilation and alphabetic arrangement of the word form dictionary. The algorithm is realized on the "Minsk-22" and "Minsk-32" computers. One table, bibliography of six titles.

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USSR

BELONOGOV, G. G., ZINOV'YEV, E. V., DENISOV, V. F.

"Automatic Retrieval of Documents on the Basis of the Text of their Abstracts"

Avtomatika i Vychisl. Tekhn. [Automation and Computer Technology], 1972, No 5, pp 73-79 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V647, by the authors).

Translation: Methods of automatic retrieval of documents on the basis of the texts of their abstracts using associative-address representation in digital computer memory are studied. In the retrieval system suggested, requests are automatically translated from formalized Russian into machine language, and the texts of the abstracts are output as responses to the requests.

USSR

UDC 621.314.58 (088.8)

ZINOVIEV, G.S., POPOV, V.I. [Novosib. elektrotekh. in-t -- Novosibirsk Electrical Engineering Institute]

"Method Of Frequency Conversion"

USSR Author's Certificate No 250283, filed 15 June 68, published 23 Jan 70 (from RZh--Elektronika i yeye primeneniya, No 11, November 1970, Abstract No 113460P)

Translation: The invention pertains to a frequency converter in which from 3-phase voltage an intermediate single-phase high-frequency voltage is formed, which is subsequently converted with the aid of a phase splitter into 3-phase voltage of controlled frequency. With the object of eliminating equalizing currents, which increases the efficiency and the power factor of the converter, and also for simplification of the control system (because of replacing 6 thyristors by semiconductor diodes), it is proposed to form single-phase high-frequency voltage of a square form with a nonsymmetrical duration of the half periods. 2 ill. I.R.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--WELDING CONNECTING PARTS TO THIN WALLED TUBES WITH SPIRAL SEAMS -U-

AUTHOR-(04)-ZINOVYEV, A.G., SHKURENKO, A.A., PRIMAK, A.A., POPOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--MOSKOW, SVARCHNOYE PROIZVODSTVO, NO. 5, 1970, PP 41-42

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--WELDING MACHINE, PIPE WELDING/(U)MSHP200 WELDING MACHINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605041/D09 STEP NO--UR/C135/70/000/005/0041/0042

CIRC ACCESSION NO--AP0142742

UNCLASSIFIED

272 013

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0142742

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINCE IT IS IMPOSSIBLE TO CUT
THREAD INTO THESE FINE WALLED TUBES, THERE IS NEED FOR FILLING OUT THE
TUBE ENDS WITH THICKER WALLED TUBES OR SPECIAL CONNECTING ELEMENTS.
ALTHOUGH THE WELDING OF THESE CONNECTING ELEMENTS HAS BEEN DONE ON
MACHINES OF THE MSHP-200 TYPE, THE WORK IS COMPLICATED BY EXCESSIVE WEAR
AND TEAR OF THE ELECTRODES AS WELL AS THE NECESSITY FOR CLEANING AND
DRESSING THE WELDED SURFACES. THIS ARTICLE DESCRIBES A NEW MACHINE FOR
DOING THIS WELDING, A PHOTOGRAPH OF THE MACHINE BEING SUPPLIED. A SHORT
LIST OF ITS TECHNICAL SPECIFICATIONS IS ALSO PROVIDED. THE OPERATION OF
THE MACHINE IS EXPLAINED, AND THE RESULTS OF EXPERIMENTS PERFORMED WITH
IT IN THE LABORATORY ARE GIVEN. IT IS ASSERTED THAT TUBES SO WELDED CAN
BE SUCCESSFULLY USED IN QUICKLY COLLAPSIBLE IRRIGATION SYSTEMS OPERATING
UNDER PRESSURES 6-12 TIMES ATMOSPHERIC.

FACILITY: VNITL.

UNCLASSIFIED

UDC: 621.376

USSR

ZINOV'YEV, G. S., Novosibirsk Electrical Engineering Institute

"A Discrete Phase Modulator for Controlling a Frequency Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 20, 1970, Author's Certificate No 273295, filed 3 May 66, pp 56-57

Abstract: This author's certificate introduces a discrete phase modulator for controlling a frequency converter with direct coupling with a variable regulating angle. The device contains flip-flops, AND and OR logic circuits, registers, a master oscillator, a timer, a key, rectifiers and a phase voltage polarity detector. As a distinguishing feature of the patent, speed is increased and operational reliability is improved by connecting the most significant digital place of the modulator shift register to the inputs of the flip-flops for the inverter and rectifier modes, and to the timer. The timer output is connected to one of the inputs of the flip-flop for the rectifier mode. The outputs of these flip-flops are connected to one of the inputs of the master oscillator. The outputs of the digital places in the shift register for the modulator are connected through the AND logic circuits to the OR circuits for the rectifier and inverter modes. The second inputs of the AND circuits are connected to the corresponding digital places

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USSR

ZINOV'YEV, G. S., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 20, 1970

of the phase shift register, and the outputs of the OR circuits are connected through rectifiers controlled by the mode flip-flops to the inputs of the AND circuits. The second inputs of the AND circuits are connected to the output of the phase voltage polarity detector.

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1/2 016 UNCLASSIFIED
TITLE--THE ELECTROSTATIC TRANSVERSE WELDING OF CONDUCTORS WITH LOCAL
DESTRUCTION OF INSULATION -U- PROCESSING DATE--23OCT70
AUTHOR--(04)--RUDZIT, R.B., BUMBIYERIS, E.V., MOSKVIN, E.G., ZINOVYEV, G.V.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 1, 70, PP 26-28
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--RESISTANCE WELDING, BIBLIOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/2032 STEP NO--UR/0135/70/000/001/0026/0028
CIRC ACCESSION NO--AP0118986
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118986

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A STUDY IS MADE OF THE PROBLEMS
DEALING WITH THE RESISTANCE TRANSVERSE WELDING OF THE INSULATED
CONDUCTOR WITH THE NONINSULATED ONE UNDER CONDITIONS OF A COMPLETE
PRESERVATION OF THE INSULATION BEYOND A DIRECT CONTACT BETWEEN PARTS.

UNCLASSIFIED

USSR

UDC: 539.128.2

BALDIN, A. M., BEZNOGIKH, Yu. D., ZINOV'YEV, I. P., ISSINSKIY, I. B., KAZANSKIY, G. S., MIKHAYLOV, A. I., MOROZ, V. I., PAVLOV, N. I., and PUCHKOV, G. P.

"Acceleration and Removal of Deuteron Beams from the OIYaI Synchro-
phasotron"

Moscow, Pribory i Tekhnika Eksperimenta, No. 3, 1971, pp 29-31

Abstract: This article describes the realization of a proposal for accelerating and extracting deuterons with existing synchro-phasotron systems made in an earlier article (Beznogikh, Yu. D., et al, Reprint OIYaI, 1968, No. R9-4214, Dubna). The basic idea of the proposal was to multiply the linear acceleration by two through halving the velocity of the deuterons going into and coming out of the linear accelerator compared to the velocity of the protons. The acceleration in the synchrotron is done in two steps: first, doubling the acceleration; second, reaching the limiting frequency of the accelerating system and then making the transi-

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USSR

BALDIN, A. M., et al., Priory 1 Tekhnika Eksperimenta, No 3, 1971, pp 29-31

tion to the plateau in the first multiple of the acceleration. By using a debuncher at the accelerator output, the capture of the deutons in first the quasi-betatron and then the synchrotron modes was increased. The authors are associated with the OIYAI (Joint Institute of Nuclear Research, Dubna).

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USSR

UDC 621.039

ASHIROV, E. G., GUREVICH, L. G., and ZINOV'YEV, N. F.

"Application of a Polynomial Approximation of Fast Neutron Spectra for Analysis of the Results of the Activation of Threshold Detectors"

V sb. Radiats. dozimetriya i spektrometriya ioniziruyushch. izluch. (Radiation Dosimetry and Spectrometry of Ionizing Radiation — Collection of Works), Tashkent, "Fan," 1970, pp 230-234 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V578)

Translation: The fast neutron spectrum in a vertical channel of the VVR-S reactor was investigated with the aid of a set of six threshold indicators of In^{115} , Ni^{58} , Zn^{64} , Mg^{24} , and Al^{27} (n, p and n, α reactions). The polynomial approximation of the spectrum was used: $\phi(E) = \alpha_1 e^{-3} + \alpha_2 e^{-2} + \dots + \alpha_6 e^2$. The dependence of the reaction cross sections on E was also approximated by polynomials. This representation of the spectrum was unsuccessful, since negative values of $\phi(E)$ were obtained in the region $E = 1.5-3$ Mev. There were considered 22 combinations of the polynomial representation of the spectrum, the function $\phi_0(E)$ describing the fission spectrum, and the exponential function $c(E) = \exp(E - \sqrt{2E})$. Considerable discrepancies were 1/2

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ASHIROV, E. G., et al, Radiats. dozimetriya i spektrometriya ioniziruyushch. izluch. (Radiation Dosimetry and Spectrometry of Ionizing Radiation -- Collection of Works), Tashkent, "Fan," 1970, pp 230-234 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V578)

obtained in the spectra found from the spectra calculated for the vertical channels of the reactor. The best approximation to the calculated spectrum using the spectrum found was obtained by the use of a simple approximation $\phi(E) = (\alpha_1/E) + \alpha_2\phi_0(E)$; this is explained by the similarity of the form of the spectrum in water-water reactors to the fission spectrum.

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172 014 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--OBSERVATIONS OF MERCURY DURING 1964 TO 1967 -U-
AUTHOR--ZINLOVYEV, V.A.
COUNTRY OF INFO--USSR
SOURCE--ASTRONOMICHESKII VESTNIK, VOL. 4, APR.-JUNE 1970, P. 141-142
DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--MERCURY PLANET, PLANETARY SURFACE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605013/C12 STEP NO--UR/C454/70/C04/000/0141/0142
CIRC ACCESSION NO--AP0140386

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0140386

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF AVERAGED DRAWINGS OF THE MERCURY PREPARED FROM 60 DRAWINGS OF THE PLANET OBTAINED WITH A 30 CM REFRACTOR AT THE VOLGOGRAD PLANETARIUM. MOST OF THE DRAWINGS WERE OBTAINED DURING THE SUMMER MONTHS OF 1965 AND 1967. THE DRAWINGS REVEAL LIGHT ROUNDED REGIONS, PENUMBRAL AREAS, AND DARK FORMATIONS. THE FEATURES OBSERVED IN 1965 ARE FOUND TO DIFFER APPRECIABLY FROM THOSE OBSERVED IN 1967. FACILITY: VSESOTIIZNOE ASTRONOMIC GEODEZICHESKOE OBSHCHESTVO, VOLGOGRAD, USSR.

UNCLASSIFIED

USSR

UDC 669.71.042.6

BALAKHONTSEV, G. A., ZINOV'YEV, V. K.

"Structure and Properties of Ingots during Crystallization in an Electromagnetic Field"

Metalloved. spлавov legkikh met. -- V sb. (Physical Metallurgy of Alloys of Light Metals -- collection of works), Moscow, Nauka Press, 1970, pp 108-112 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G182)

Translation: A new method of casting Al alloys and alloys based on Al in an electromagnetic field is described briefly, and data are presented on the structure and properties of the ingots cast by the indicated procedure. There are 4 illustrations, 2 tables, and a 6-entry bibliography.

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USSR

UDC 669.71.042.62

ZINOV'YEV, V. K.

"Calculation of Casting Rates"

Tekhnol. Legkikh Splavov. Nauchno-tekhn. Byul. VILSa [The Technology of Light Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light Alloys], 1970, No. 5, pp 40-44. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G131 by S. Lyubimova).

Translation: Formulas are studied for determining the process of crystallization of a metal with continuous pouring of circular and flat cross-section ingots. One version of the calculation of the pouring rate of Al is suggested. 1 table; 11 biblio refs.

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Foundry

USSR

UDC 669.716:621.74.01:548.5

BALAKHONTSEV, G. A., and ZINOV'YEV, V. K.

"The Structure and Properties of Ingots with Crystallization in an Electromagnetic Field"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 108-112, resume

Translation: A brief description is presented of a new method of casting ingots in an electromagnetic field. Data on the structure and properties of ingots cast by the method are given. Four figures, two tables, six bibliographic references.

ZINOV'YEV, V. R., Active Member of the Scientific and Technical Society of
Radio Engineering, Electronics and Communications imeni A. S. Popov

"On the Rising Probability of Target Detection by Technical Facilities for
Discrete Observation"

Moscow, Radiotekhnika, Vol 26, No 6, Jun 71, pp 14-17

Abstract: In solving problems of evaluating the effectiveness of devices for technical observation as well as in studying methods of discrete data processing in automatic terminal devices, it sometimes becomes necessary to determine the probability of detecting a target or its trajectory within a predetermined number of scan cycles when the criterion of detection is subject to conditions which do not allow using a cumulative probability formula. In this paper, the author considers the case where the structure of the criterion of detection is accounted for by the maximum number of unfavorable outcomes which separate any pair of favorable outcomes, assuming that the probability of detection in each scan cycle is invariant. The structure of the criterion of detection is characterized by the following indices: n -- the number of scan cycles within which the rising probability is calculated; m -- the minimum number of favorable outcomes in a series of predetermined length; and J -- the permissible number of unfavorable outcomes which separates each of the m favorable outcomes in the given series. The resultant expression for calculating the rising probability reduces to known formulas in extreme special cases when $J = 0$ and when $J = n - 2$.

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USSR

ZINOV'YEV. V. YE.. MASHAROV. S. I.. GEL'D. P. V.

"Kinetic Properties of Rhenium at High Temperatures"

Leningrad, Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1281-1284

Abstract: The thermal properties of rhenium were studied previously up to 2,400° K [A. V. Arutyunov, L. P. Filippov, TVT, No 8, 1095, 1970]. In the present article a study has been made of the coefficient of thermal diffusivity of rhenium in the temperature range from 850 to 3,000-3,200° K. The measurements were performed on a monocrystalline specimen containing about 99.99% Re which were cut perpendicular to the [1010] axis and were $5 \times 5 \times 0.3$ mm in size. The coefficient of thermal diffusivity was determined by the method of plane thermal waves [V. Ye. Zinov'yev, R. P. Krentsis, P. V. Gel'd, TVT, No 6, 927, 1968; L. P. Gel'd, V. Ye. Zinov'yey, TVT, No 10, 656, 1972] at a frequency of 168.8 hertz in a vacuum of $5 \cdot 10^{-6}$ mm Hg. The plotted data indicate that the thermal diffusivity of rhenium decreases weakly with temperature. The coefficient of thermal conductivity and the electron component of the thermal conductivity were calculated and also plotted. The increase in the coefficient of thermal conductivity comes from the electron component at the same time as the lattice component $\lambda_g = \lambda - \lambda_e$ decreases with temperature. By comparison with other transition metals λ_g in rhenium is quite large.

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The interpretation of the kinetic properties of Re and its alloys with

USSR

ZINOV'YEV, V. YE., et al., Fizika Tverdogo Tela, Vol 15, No 4, 1973, pp 1281-1284

Mo based on the ordinary Mott model encounters significant difficulties. The Fermi surface of rhenium is also very complicated, but it is noted that alloying of the metal with small groups can lead to a dual situation: 1) the temperature dependence of ρ remains the same as for the pure metal if the small groups do not disappear or reoccur; 2) if the states with the small groups disappear (or turn out to be completely filled), the resistance will be described by a simple relation of the type of $\rho = \rho_0 + AT$ where A is the constant, ρ_0 is the resistance caused by elastic scattering on the admixtures. It is suggested that this may be the situation in alloys of rhenium with molybdenum and tungsten.

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USSR

ZINOV'YEV, V. YE., KRENTSIS, R. P., GEL'D, P. V.

UDC 669.01:536.425:536.2.001.2

"Effect of Phase Transformation and Thermal Defects on the Thermal Conductivity and Thermal Diffusivity of Ti, Fe, Co, Ni, Pt and certain Steels at High Temperatures"

V sb. Fiz.-khim. osnovy proiz-va stali (Physical-Chemical Principles of Steel Production -- collection of works), Moscow, Nauka Press, 1971, pp 91-96 (from RZh--Metrologiya i Izmeritel'naya Tekhnika, No 3, Mar 72, Abstract No 3.32.979)

Translation: The block diagram is presented for a device on which the method of plane temperature waves is used to measure the coefficient of thermal diffusivity in thin plane-parallel plates of metals and alloys at temperatures above 700° C. Results are presented for measuring the coefficients of thermal diffusivity of Ti, Fe, Co, Ni, Pt and EI929, EI826, EI47B3 and EI435 steel. The thermal conductivity of the given metals and alloys was calculated using the published data on the density and heat capacity. There are 4 illustrations and a 27-entry bibliography.

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1/2 033
UNCLASSIFIED
TITLE--THERMAL DIFFUSIVITY AND THERMAL CONDUCTIVITY OF SOLID SOLUTIONS OF
SILICON IN IRON AND COBALT -U-
AUTHOR--(04)-KRENTSIS, R.P., ZINOVYEV, V.YE., ANDREYEVA, L.P., GELD, P.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1), 118-23
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--THERMAL CONDUCTIVITY, SOLID SOLUTION, IRON ALLOY, COBALT
ALLOY, SILICON CONTAINING ALLOY, CURIE POINT, THERMAL DIFFUSION, HIGH
PURITY METAL, PHONON SCATTERING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0941
STEP NO--UR/0126/70/029/001/0118/0123
CIRC ACCESSION NO--AP0121543
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121543

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE THERMAL DIFFUSIVITY OF A SOLID SOLN. OF SI IN FE (UP TO 8.2 WT. PERCENT SI), OF SI IN CO (UP TO 3 WT. PERCENT SI), AND OF PURE CO WAS DETD. IN THE REGION OF THE CURIE TEMP. (T SUBC). IN EACH CASE, THE POLYTHERM OF THERMAL DIFFUSIVITIES SHOWS A MIN. IN THE REGION OF T SUBC. AWAY FROM T SUBC, AN APPROX. LOGARITHMIC DEPENDENCE WAS OBSD. OF THERMAL DIFFUSIVITY ON T-T SUBC. THE DEPENDENCE IS MORE COMPLEX CLOSE TO T SUBC. A MIN. IN THE THERMAL COND. POLYTHERMS AT T SUBC ARE A RESULT OF A STRONG PHONON ELECTRON AND PHONON SPIN SCATTERING. THE MECHANISM OF SCATTERING AND TRANSFER IN FERROMAGNETIC SYSTEM IS DISCUSSED. FACILITY: URAL. POLITEKH. INST.IM. KIROVA, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

TRET'YAKOV, A. V., et al., Stal', No 7, Jul 73, pp 628-632

advantageous to equip continuous cold rolling mills with electrohydraulic systems of forced roll bending. Operation of the system of hydraulic shaping of the working rolls on a 1700 finishing mill made it possible to, along with a 1.5-3.0-fold reduction of rejection of cold-rolled sheet for roughness and waviness, substantially stabilize the mode of reductions and to increase the output of 1.5-2.0 mm thick sheet for very deep drawing by 10%. Six figures, two tables, six bibliographic references.

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APPROVED FOR RELEASE: 09/01/2001

Forming

CIA-RDP86-00513R002203820003-1"

USSR

UDC 621.171.237

TRET'YAKOV, A. V., ZINOV'YEV, YE. G., ZUYEV, B. P., SHEBANITS, E. N., and NALCHA, G. I., Scientific Research Institute of Heavy Machine Building of the Urals Machine Building Plant and the Zhdanov Metallurgical Plant imeni Il'ich

"Increasing the Quality of Strip During Coiling Using an Electrohydraulic System of Working Rolls Bending"

Moscow, Stal', No 7, Jul 73, pp 628-632

Abstract: The graphic relationship of corrected height of nonplaneness to the relative difference of elongation along the strip width, having a parabolic nature, was determined. It was established that strip and sheet dimensions affect the height of the wave forming the non-planeness. Effectiveness of the action of additional bending of the working rolls on the relative difference of elongations and strip non-planeness surpasses the effectiveness of the action of the pressure device (with the exception of narrow and thin strip). Hydroshaping of the working rolls promotes improvement of the mechanical properties of low-carbon steel during finishing owing to an insignificant change of the average relative reduction along the strip width in the limits of 0.8-1.4%. Adjustment of the hydroshaping system for the initial non-planeness of strip leads to producing heterogeneous mechanical properties along the width. Therefore, it is

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USSR

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UDC 632.95

ZINOV'YEV, YU. M., and MIRONOVA, R. I.,

"Method of Producing Ethylthiol Pyrazole or Pyrazolene Derivatives"

USSR Authors' Certificate No 248667, filed 24/05/66, published 4/01/70
(from Referativnyy Zhurnal Khimii, No 16 (II), 25 Aug 70, Abstract
No 16 N694 P by A. F. Prokof'yeva)

Translation: Heterocyclic aminothiols containing 2 N atoms in the ring
are produced by the interaction of derivatives of pyrazole or pyrazolene
with ethylenesulfide in benzene in an atmosphere of N_2 . A mixture of 12 g
HSCH = CH₂, 41.6 g 3,5-dimethylpyrazole (II) in 50 ml benzene is boiled
10 hr in a current of N_2 ; the solvent is removed, the excess II is filtered
off and triple distillation of the residue produces 15 g of β -(3,5-dimethyl-
pyrazolyl)-ethylmercaptan, yield 48.3%, b.p. 75-7°/2 mm, n^{20}_D 1.5250, d^{20}_4
1.0564. A similar method is used to produce β -(3,5,5-trimethylpyrazolonyl)-
ethylmercaptan, yield 38%, b.p. 73-6°/2.5 mm, n^{20}_D 1.5026, d^{20}_4 0.09972.

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USSR

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UDC 622.807:621.928.9

ZINOV'YEV, YU. Z., Candidate of Technical Sciences, MERKULOV, V. A., and SOLOV'YEV, S. P. (Shakhtinsk Branch of Makeyevka Scientific Research Institute for Labor Safety in the Mining Industry, Committee for Industrial and Mine Safety, USSR), and KLASSEN, V. I., Doctor of Technical Sciences (Institute of Mineral Fuels), Moscow, State Committee for the Fuel Industry USSR

"Improving Wet Recovery of Coal and Rock Dust by Magnetic Water Treatment"

Moscow, Ugol', No 3, Mar 70, pp 64-66

Abstract: With the object of establishing the effect of magnetic water treatment on dust recovery in coal mines, the authors undertook laboratory experiments using a dust chamber operating on the principle of the trapping of particles of hovering dust by water drops falling in a dusty space. The prototype for the chamber was the well-known drop instrument of the Institute of Physical Chemistry, Academy of Sciences USSR. The effect of the magnetic water treatment was determined by comparing results obtained from the use of ordinary tap water. A PMU antiscale device was used for the magnetic

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ZINOV'YEV, YU. Z., et al, Ugol', No 3, Mar 70, pp 64-66

treatment. The magnetic field intensity was 2200 oe, the rate of water flow through the apparatus 0.1-0.7 m/sec. The results indicate that dust recovery is increased by magnetic water treatment at a field intensity of 2200 oe. The maximum effect (3.3- and 2.8-fold) was obtained at a water flow rate of 0.3-0.5 m/sec. The dust-trapping ability of water after its magnetic treatment is higher than with the use of the most effective wetting agents.

Industrial tests were carried out at the mines imeni Lenin and imeni Oktyabr'skaya Revolyutsiya of the Rostov Coal Combine. Drinking water was used at the former for watering of dust, mine water at the latter. The experiments were staged on water curtains installed in the ventilating entries 30 m from lava. A PMU apparatus of the Plant imeni Voykov was used for the magnetic treatment, water flow rate 0.33, 0.485, 0.66 and 0.85 m/sec. There was found to be over a 2.3-fold increase in dust recovery efficiency at the mine imeni Oktyabr'skaya Revolyutsiya with a mine-water flow rate of 0.66 m/sec. This is apparently due to the fact that the mine

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USSR

ZINOV'YEV, YU. Z., et al, Ugol', No 3, Mar 70, pp 64-66

water has a higher content of inorganic ions (the Na^+ ion concentration of mine water is 10 times higher and the chloride concentration 30 times higher than that of tap water). The presence of these ions in water has a significant influence on the effectiveness of the magnetic treatment.

For the best results the optimum water treatment regime (i.e., the optimum field intensity) must be chosen experimentally in each specific case.

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Organophosphorous Compounds

USSR

UDC 632.95

KNUNYANTS, I. L., BYKHOVSKAYA, E. G., SIZOV, YU. A., ZINOV'YEVA, L. I.

"A Method of Making Alkyl Perfluorovinylalkylphosphinates"

USSR Author's Certificate No 297644, filed 22 Dec 69, published 1 Jun 71
(from RZh-Khimiya, No 1(II), Jan 72, Abstract No 1N412)

Translation: Compounds of the general formula $R(R'O)P(O)CF=CF_2$ (I) ($R = Me, Et; R' = Pr, Bu$) are made by the reaction of dialkyl chlorophosphonates with perfluoromagnesium iodide (II) in an organic solvent at -15 to $20^\circ C$. A solution of $Me (iso-PrO)POCl$ in 10 ml of absolute ether is added with stirring, in a stream of N_2 , to a solution of II obtained from 2.5 g Mg and 24 g $CF_2=CFI$ at -15 to $20^\circ C$, and the mixture is stirred for an hour at $-10^\circ C$; the temperature is then raised to $-5^\circ C$, and the mixture is decomposed with a 10% H_2SO_4 solution. The reaction mixture is heated to $20^\circ C$. The ether layer is removed, the water layer is extracted with ether and dried over Na_2SO_4 . After distilling the solvent, the result is 3.2 g of I ($R = Me, R' = iso-Pr$), yield 30%, boiling point $55^\circ/3$, $d_4^{17} 1.2689$, $n_D^{17} 1.3952$. An similar method is used for synthesizing compound I ($R = Me, R' = iso-Bu$), yield 30-35%, boiling point $51-2^\circ/3$, $d_4^{22} 1.2087$, $n_D^{22} 1.3908$. A. F. Prokof'yeva.

USSR

UDC: 621.396.67:624.97(088.8)

KERPELEV, S. M., MIROVA, T. D., FRIDMAN, P. M., ZINOV'YEVA, N. A.

"An Antenna Support"

USSR Author's Certificate No 272396, filed 27 Sep 68, published 22 Sep 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B113 P)

Translation: The proposed antenna support contains a bar for fastening the antenna, a cable drum, and an instrument cabinet. To improve convenience in the use of the support, it contains an operator's chair formed by the interconnected tubes which make up the stand of the support and the top of the instrument cabinet. The cabinet top is accommodated in the longitudinal slots of two tubes which fit into the fastening brackets of the cable drum. The drum has rims with tires and racks for holding the antenna in the collapsed position.

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SPRS 59208
6-73

3

XV-1. STUDY OF THE REAL MICROSTRUCTURE OF GROWTH AND SOLUTION SURFACES BY THE LIGHT CONFIGURATION METHOD

Article by V. M. Kozlovskiy, V. M. Zinov'yeva, Novosibirsk, [1] Sbornik po Prirodoznaniyu i Sushnosti Poluprovodnikov (Novosibirsk, Khimatom, 12-13 June 1972, p. 216)

The method of light configuration used at the present time to orient crystals along the principal crystallographic axes can in reality give richer information about the growth or solution surfaces. The lines and bands on the light configurations are diffraction spectrum systems and bear information about the series of growth and solution steps.

In the case of layered growth of the crystals on the faces frequently vicinal forms occur which are deflected by a fraction of an angular degree from the basic facet. By using a laser beam it is possible to determine the angles of vicinal forms with an accuracy to several seconds. Thus, it is possible to determine the angles of disorientation of individual blocks reaching the surface.

In the case of complex structure of the surface, the light configurations are frequently strongly diffuse, and it is difficult to determine the exact angular value of one facet or another by them. In this case a good result is obtained by the effect of overexposure of the photographic screen known by the name of the solatization phenomenon.

That has been discussed is illustrated in an example of semiconductor crystals with a structure of the type of diamond, sphalerite or garnet.

ZINOV'YEVA, V.P.

USSR

UDC 66.011.681.2

IVANOV, L. A., ZIPINEV, V. G., Engineers

"Vacuum Deposition of a Layer of Gold on the Inside Surfaces of Hollow Kovar Parts"

Moscow, Pribery i Sistemy Upravleniya, No 11, 1973, pp 55-56

Abstract: The process of vacuum deposition of gold on the inside surface of a hollow kovar cylinder with small inside diameter has been realized using a specially developed evaporator [L. A. Ivanov, et al., USSR Author Certificate No 290966, Byulleten' izobreteniy, No 3, 1971]. The operating principle of this device is discussed, and the device is described. The deposition of the layer of gold on the collector rotating around the evaporator and previously heated to 420-440°C is realized with a rarefaction in the vacuum chamber of more than $1 \cdot 10^{-5}$ mm Hg. With complete evaporation of two grams of gold in the evaporator, the inside surface of the collector was coated with a dense uniform layer 4 microns thick. The time for complete evaporation of the gold was 18 minutes. After completing the deposition operation, the chamber temperature was lowered to 360-420° and the applied film was annealed for 30 minutes at this temperature. To protect the S48-1 glass which formed part of the collector from thermal shock the rate of increase and decrease in temperature in the vacuum chamber had to be kept from exceeding 180°C/hour.

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MEDICINE

ZIRAKADZE, A. N.

SO: JPRS 54304
 AND 22 04 71

UDC: 616-053.31-02:615.53-095.832.3

COLEMAN

THE EFFECT OF HYPOTERMIA OF THE FETAL BRAIN DURING LABOR ON ITS FUNCTIONAL STATE AND ON THE COURSE OF THE NEONATE PERIOD

Article by V. V. Dzhavaya, P. N. Khachatryan, A. N. Zirkadze, V. N. Gikvoldze, A. A. Lomidze, N. P. Sharik, Scientific Research Institute of Obstetrics and Gynecology, Georgian Ministry of Health, Tbilisi; Moscow, Vsesoyuznaya Akademiya Meditsiny, Moscow, USSR, Russian, No 8, 1971, pp 52-63

The prevention and treatment of fetal asphyxia and cerebrocranial trauma during labor has always been in the center of attention of obstetricians and gynecologists, since these conditions are a most important cause of perinatal mortality.

The existing methods of treating asphyxia involve treatment of the maternal organism in order to improve the condition of the fetus; these methods are not effective when there is impairment of maternal-placental and fetal-placental circulation or of fetal tissue metabolism, and it becomes necessary to treat the fetus directly.

In view of the fact that the fetal brain is particularly sensitive to hypoxia, the chief objective of prophylaxis and treatment of intra-uterine asphyxia consists of increasing the resistance of brain tissue to oxygen deficiency, of preventing onset of hypoxia, and eliminating the developing pathological consequences.

In the last few years, for this purpose, our clinic has been using hypothermia of the fetal brain during labor.

Both in the Soviet and foreign literature there is an enormous quantity of works dealing with the effect of cerebrocranial hypothermia on the organism and with the good results obtained when this method was used in clinical practice (V. A. Bukov; L. I. Burkiy; I. R. Petrov; B. V. Petrovskiy; P. M. Starikov; N. V. Serebreny; G. M. Miller; K. M. Kladov; L. A. Lomidze; P. N. Sharik; and others).

In the world literature there are descriptions of a considerable number of brain and heart operations under general hypothermia on pregnant women with a good outcome of pregnancy and labor (Bartter; Vandewater; Cannell; Pevhouse; Wilson, and others).

USSR

UDC 533.92:621.039.61

ALEKSIIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIEVSKIY, A. V., GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. Kh., KONOTOP, P. I., PGOZHEV, D. P., PELETNINSKAYA, V. G., SERGEYEV, Yu. F., SMIRNOV, V. G., SUPRUNENKO, V. A., TOLOK, V. T., TARAN, V. M.

"Development and Production of the Magnetic System of the 'Uragan' Stellarator and a Study of Magnetic Surfaces With Large Shear"

Fiz. plazmy i probl. uprav. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 73-112 (from RZh-Fizika, No 11, Nov 72, Abstract No 11C279)

Translation: This paper concerns the study of the magnetic system of the three-loop "Uragan" stellarator-racetrack. Considerations concerning the selection of optimal parameters of the magnetic system of the stellarator are discussed. The equipment of the "Uragan" is briefly described. An experimental study of the magnetic surfaces made with the aid of low-energy electron beams showed that in the "Uragan" stellarator-racetrack with

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USSR

ALEKSIN, V. F., et al, Fiz. plazmy i probl. upravl. termoyader. sinteza.
Resp. mezhved. sb., 1972, No. 3, pp 73-112

individually controlled cylinders there are closed magnetic surfaces with high shear values (~ 0.09) and angle of rotational conversion ($\sim 240^\circ$). The experimental data are compared with calculated values obtained on the BESM-6 computer.

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USSR

UDC 533.92:621.039.61

VOYTSENYA, V. S.; ZISER, V. Ya., DIKIY, A. G., ZHDANOV, A. I.,
PINOS, I. B., YAROKER, Ya. N.

"Calculation and Modeling of Helical Windings of Various Types on Toroidal Surfaces"

Fiz. plazmy i probl. upravl. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion.
Republic Interdepartmental Collection), 1972, No. 3, pp 137-141 (from
RZh-Fizika, No 11, Nov 72, Abstract No 11G276)

Translation: The problem of the possibility of using various winding patents for helical conductors on toroidal surfaces is investigated: geodesic lines, lines of constant inclination to the generatrix of the torus, and lines of a cylindrical and toroidal spiral. It is shown that a tight elastic grid can be a fairly good approximation for geodesic lines on a torus. Data are given for constructing a geodesic line on a toroidal surface with an arbitrary aspect ratio. The calculations were made on the "Ural-4" and "Mir" computers.

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1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EMERGENCE AND COURSE OF SILICOSIS IN SUBJECTS HAVING DISCONTINUED
EXPOSURE TO THE EFFECT OF DUST -U-
AUTHOR-(02)-ZISLIN, D.M., BAKALENIK, K.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 4, PP
52-54
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RESPIRATORY SYSTEM DISEASE, INDUSTRIAL HYGIENE, PNEUMONIA,
HEPATITIS, TUBERCULOSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1228

STEP NO--UR/0391/70/000/004/0052/0054

CIRC ACCESSION NO--AP0054123

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 029

CIRC ACCESSION NO--AP0054123

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANAMNESTIC DATA WHICH MIGHT ACCOUNT FOR ADVERSE COURSE OF SILICOSIS IN THE POST DUST EXPOSURE PERIOD ARE ANALYZED. A TOTAL OF 1375 SILICOTIC PATIENTS FROM AMONG WORKERS OF REFRACTORY MATERIALS INDUSTRY, FOUNDRIES AND MINING ENTERPRISES WERE OBSERVED DYNAMICALLY. A NUMBER OF FACTORS INFLUENCE THE COURSE OF SILICOSIS IN PATIENTS DISSOCIATED FROM THE DUST EFFECTS, AND THE HIGHER THE DEGREE OF DUST AND PHYSICAL LOADS, THE QUICKER THE DISEASE COMMENCES TO PROGRESS FURTHER. LETTING THE PATIENT CONTINUE TO WORK IN A DUST LADEN ATMOSPHERE FOR OVER 1 YEAR AFTER ESTABLISHMENT OF THE DIAGNOSIS CONTRIBUTES TO A SWIFTER PROGRESS OF THIS MORBID CONDITION. IN CASES OF SUSPECTED SILICOSIS DISCONTINUATION OF EXPOSURE TO DUST GREATLY REDUCES THE FREQUENCY OF THE CONDITION BECOMING TRANSFORMED INTO SILICOSIS OF THE FIRST DEGREE, AS WELL AS FURTHER PROGRESS OF THE LATTER. SILICOSIS CAN ALSO DEVELOP AND RUN A PROGRESSIVE COURSE THROUGHOUT THE WHOLE OF THE LIFE TIME IN PENSIONARIES HAVING DISCONTINUED THEIR OCCUPATIONAL ACTIVITIES BECAUSE OF OLD AGE WITHOUT SUFFERING FROM SILICOSIS. SOME DISEASES SUCH AS PNEUMONIA AND HEPATITIS, SUSTAINED IN THE PAST, ARE CONDUCTIVE TO THE PROGRESS OF SILICOSIS. FEMALES ARE SEEN TO BE SUSCEPTIBLE TO AN EARLIER JOINING IN OF TUBERCULOSIS AND THE LATTER'S PROGRESS, BY COMPARISON WITH MALES.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--02 OCT 70
TITLE--ELECTRETS FROM POLYMERIC FILMS -U-
AUTHOR--(04)-GUBKIN, A.N., YEGOROVA, T.S., KOKORIN, L.M., ZITSER, N.E.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970 12(3) 602-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--ELECTRET, POLYMER FILM, POLYETHYLENE TEREPHTHALATE,
POLYTETRAFLUOROETHYLENE, ELECTRIC POLARIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/0307 STEP NO--UR/0459/70/012/003/0602/0609
CIRC ACCESSION NO--AP0111501
UNCLASSIFIED